



**CITY OF PHILADELPHIA
DEPARTMENT OF PUBLIC HEALTH
AIR MANAGEMENT SERVICES**

PLAN APPROVAL

Approval No: 05124
Plant ID: 01501

Source: Sunoco, Inc. (R&M).

Owner: Sunoco, Inc. (R&M)
Address: 3144 Passyunk Avenue
Philadelphia, PA 19145-5299

Location: 3144 Passyunk Avenue
Philadelphia, PA 19145-5299

Attention: Robert Muche
SR. Environmental Engineer

Pursuant to the provisions of Title 3 of the Philadelphia Code, the Air Management Code of February 17, 1995, as amended, and after due consideration of an application received under the rules and regulations of the Philadelphia Air Pollution Control Board, the City of Philadelphia Department of Public Health, Air Management Services (AMS) on October 4, 2005 approved plans for the installation of the air contamination source(s) described below:

Replace the 1332 CRU H-2 Hydrocarbon Heater with a new unit. Both the original unit and the replacement unit burn refinery fuel gas and have a capacity of 60 MMBTU/hr.

This plan approval expires on April 4, 2007. If construction has not been completed by this date, an application for either an extension or a new plan approval must be made. The conditions in this plan approval will remain in effect until they are incorporated in an operating permit.

The sources covered by this plan approval are subject to the conditions prescribed in the attachment.

A handwritten signature in black ink, appearing to read "Edward Braun".

Edward Braun
Chief, Source Registration

Date: Oct. 4, 2005

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1. The above source shall be installed in accordance with the specifications in the application (as approved herein).
2. The heater shall fire only refinery fuel gas. The firing rate shall not exceed 60 MMBTU/hr.
3. The heater shall be equipped with Ultra Low NOx burners and shall achieve a NOx emission rate of 0.04 lbs/MMBTU at 3% oxygen at full design load, 3-run average. [25 PA Code § 127.1]
4. Carbon Monoxide (CO) emissions from the heater shall not exceed 400 ppm_{dv} at 3% oxygen, 3-run average. [40 CFR 63 Subpart DDDDD, Table 1]
5. Particulate matter emissions from the heater shall not exceed 0.10 lbs/MMBTU gross heat input. [AMR II. Section V.2]
6. Sulfur Dioxide (SO₂) emissions from the heater shall not exceed 0.53 lbs/MMBTU at any time or 0.33 lbs/MMBTU on a rolling 365-day average. [SO₂ Operating Permit No. SO2-95-039]
7. The Hydrogen Sulfide content of refinery fuel gas burned in the heater shall not exceed 0.10 grains per dry standard cubic foot. [40 CFR 60.104(a)(1) – assures compliance with Condition 6]
8. Sunoco may not permit the emission into the outdoor atmosphere of visible air contaminants in such a manner that the opacity of the emission is either of the following:
 - (a) Equal to or greater than 20% for a period or periods aggregating more than three (3) minutes in any one hour.
 - (b) Equal to or greater than 60% at any time.
9. The heater shall be installed, maintained, and operated in accordance with manufacturer's specifications.
10. Within 180 days after initial start up, Sunoco shall conduct performance tests to demonstrate compliance with the Nitrogen Oxide emission limit specified in Condition 3 and the Carbon Monoxide emission limit specified in Condition 4. The CO performance test shall meet the requirements of 40 CFR 63.7520 and Table 5 of 40 CFR 63 Subpart DDDDD. The stack test protocol shall be submitted to AMS for approval at least 30 days before the test date and the test results shall be submitted within 60 days after the test.
11. Sunoco shall monitor and record the concentration of Hydrogen Sulfide in the refinery fuel gas with a continuous monitoring and recording system. The monitoring system shall meet the requirements of 40 CFR 60.105(a)(4) and 25 PA Code Chapter 139.
12. Sunoco shall install and operate a fuel flow monitor on the heater.
13. Sunoco shall analyze fuel gas samples for heating value daily.
14. Sunoco shall keep the following records for the heater:
 - (a) Continuous Hydrogen Sulfide monitoring system records.

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Sunoco, Inc. (R&M)

- (b) Records of daily refinery fuel gas consumption, heating value, and sulfur content.
- (c) Stack test results.

These records shall be kept for a minimum of 5 years and produced upon request by AMS.

- 15. Sunoco shall submit all notifications required by 40 CFR 63.7545.
- 16. Sunoco shall submit excess emissions reports in accordance with 40 CFR 60.7(c), including all rolling 3-hour periods during which the average concentration of H₂S in fuel gas burned in the heater exceeded 0.1 grains per dscf. [40 CFR 60.105(e)(3)]
- 17. Sunoco shall submit semiannual compliance reports in accordance with 40 CFR 63.7550 and Table 9 of 40 CFR 63 Subpart DDDDD.
- 18. Sunoco shall submit immediate startup, shutdown, and malfunction reports in accordance with 40 CFR 63.10(d)(5) and Table 9 of 40 CFR 63 Subpart DDDDD.
- 19. Sunoco shall within two hours of knowledge of any occurrence of any malfunction of the sources described in this permit which results in, or may possibly result in the emission of air contaminants in excess of the limitations specified above, notify AMS by calling (215) 685-7572 during business hours and (215) 686-4514 during other times. Malfunction(s) which occur at this facility, and pose(s) an imminent danger to public health, safety, welfare and the environment, and would violate permit conditions if the source were to continue to operate after the malfunction, shall immediately be reported to AMS by telephone at the above number. A written report shall be submitted to AMS within two working days following the (notification of the) malfunction, and shall describe, at a minimum, the nature and degree of malfunction(s), the emission(s) of each pollutant, the duration of malfunction(s) and any corrective action taken.



CITY OF PHILADELPHIA

DEPARTMENT OF PUBLIC HEALTH
PUBLIC HEALTH SERVICES
AIR MANAGEMENT SERVICES

2005 JUN 22 PM 12:41

Air Management Services
321 University Avenue
Philadelphia PA 19104-4543
Phone: (215) 685-7572
FAX: (215) 685-7593

APPLICATION FOR PLAN APPROVAL TO CONSTRUCT, MODIFY OR REACTIVATE AN AIR CONTAMINATION SOURCE AND/OR AIR CLEANING DEVICE

(Prepare all information completely in print or type in triplicate)

SECTION A - APPLICATION INFORMATION

Location of source (Street Address) 3144 Passyunk Avenue, Philadelphia, PA 19145		Facility Name Sunoco, Inc (R&M) Philadelphia PA 19145	
Owner Sunoco, Inc (R&S)		Tax ID No Y23-1743283	
Mailing Address 3144 Passyunk Avenue, Philadelphia, PA 19145		Telephone No. (215) 339-2120	Fax No. (215) 339-2657
Contact Person Robert Muche, SR. Environmental Engineer		Title Senior Environmental Engineer	
Mailing Address 3144 Passyunk Avenue, Philadelphia, PA 19145		Telephone No. (215) 339-2120	Fax No (215) 339-2657

SECTION B - DESCRIPTION OF ACTIVITY

Application type <input type="checkbox"/> New source <input type="checkbox"/> Modification <input checked="" type="checkbox"/> Replacement <input type="checkbox"/> Reactivation <input type="checkbox"/> Air cleaning device <input type="checkbox"/> Other		SIC Code 2811	Completion Date To be determined
Applicable requirement <input checked="" type="checkbox"/> NSPS <input type="checkbox"/> NESHAP <input checked="" type="checkbox"/> Case by Case MACT <input type="checkbox"/> NSR <input type="checkbox"/> PSD		Does Facility submit Compliance Review Form biannually ? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If No attach Air Pollution Control Act Compliance Review Form with this application. Submitted semi-annually	

Source Description:

The 1332 CRU H-2 Hydrobon Heater H-2 (Title V ID CU-009) is regulated by a Title V Permit V95-038 with a BTU limitation of 60 MMBTU/hr and a NOx limit of 0.3 lbs/MMBTU and an underlying NOx RACT permit (October 7,2002) and a SO2 Permit (SO2-95-039) with a short term emission limitation of 0.53 lbs.SO2/mmbtu and a long term emission limit of 0.33 lbs.SO2/mmbtu. The 1332 CRU H-2 Hydrobon Heater was constructed in 1958

This plan approval seeks Air Managements approval to Sunoco's plan to replace this process heater 1332 CRU H-2 Hydrobon Heater. The existing heater will be dismantled and the replacement heater would be erected at that location. The replacement heater will be compliant with the applicable provisions of 40 CFR Part 60 Subpart J and will burn refinery fuel gas less than 162 ppm H2S (3 hour rolling hour basis) or 0.1 gr. H2S/dscf. Based upon a review of last two years of data, sulfur results range from an average of 91 ppm to a maximum of 1065 ppm, hence taking the NSPS will result in an overall reduction of sulfur oxides. An Air Management Services Approved H2S analyzer will be installed in this project to continuously monitor for H2S. In addition the replacement heater will be in compliance with the applicable provisions of 40 CFR 63 Subpart DDDDD. Two year data from combustion tuning shows NOx emission rates range from an average of 0.10 lbs.NOx/mmbtu to maximum of 0.15 lbs.NOx/mmbtu. The replacement heater will be fitted with Ultra Low NOx Burners which will result in a reduction of nitrogen oxides, the current heater is equipped with conventional burners. Reduction of NOX and SOX precursors for PM will have the underlying effect of reducing overall PM emissions

1332 CRU H-2 Hydrobon Heater was constructed in 1958.

The existing heater will be demolished and the replacement heater will be constructed.

SECTION C - PERMIT COORDINATION (ONLY REQUIRED FOR LAND DEVELOPMENT)

Question	YES	NO
1. Will the project involve construction activity that disturbs five or more acres of land?		XX
2. Will the project involve discharge of industrial wastewater or stormwater to a dry swale, surface water, ground water or an existing sanitary sewer system?		XX
3. Will the project involve the construction and operation of industrial waste treatment facility?		XX
4. Is onsite sewage disposal proposed for your project?		XX
5. Will the project involve construction of sewage treatment facilities, sanitary sewer, or sewage pumping station?		XX
6. Is a stormwater collection and discharge system proposed for this project?		XX
7. Will any work associated with this project take place in or near a stream, waterway, or wetland?		XX
8. Does the project involve dredging or construction of any dam, pier, bridge or outfall pipe?		XX
9. Will any solid waste or liquid wastes be generated as a result of the project?		XX
10. Is a State Park located within two miles from your project?		XX

SECTION D - CERTIFICATION

I certify that I have the authority to submit this Permit Application on behalf of the applicant named herein and that the information provided in this application is true and correct to the best of my knowledge and information.

Signature Robert Muche Date 6/20/05 Address 3144 Passyunk Avenue, Philadelphia, PA 19145
Name & Title Robert Muche, SR. Environmental Engineer Phone (215) 339-2120 Fax (215) 339-2657

